

CONSTANTEMP HEATER



FEATURES

- Single or Double Wall Exchanger
- Accuracy $\pm 3^{\circ}\text{F}$
- Feed-Forward Control
- Flows up to 120 GPM
- Adjustable Temperature 105-180 $^{\circ}\text{F}$
- No Storage Tank Required
- Built In Safety
- Heats Water Only on Demand
- Fits Through Standard Doorways
- High Turndown

OPTIONS

- Skidded
- Recirculation Kit
- Automatic Descaler
- Insulated Cover
- Pressure Gradient Monitor

MODELS

L - Single Wall
LDW- Double Wall

APPLICATION DATA

- Hospital Patient & Domestic Hot Water
- University Dormitories
- Safety Shower Systems
- Industrial Shower Rooms
- Booster Heater
- Building Heat

RATINGS

Adjustable temperature range:

45-120 GPM: 105-180 $^{\circ}\text{F}$ (41-82 $^{\circ}\text{C}$)
15 and 30 GPM: 105-150 $^{\circ}\text{F}$ (41-65 $^{\circ}\text{C}$)

Steam pressure: 2-250 PSIG (14-1725 kPa)
over 15 (104 kPa), requires steam reducing valve

Water pressure: 150 PSI max. (1034 kPa)
Option: 250 PSI max. (1723 kPa)(single wall only)

Flow ranges:

Single Wall: 15, 30, 45, 60, 75, 90, 105, 120 GPM
(57, 114, 170, 227, 284, 341, 397, 454 L/min)
Double Wall: 30, 60, 90, 120 GPM (114, 227, 341,
454 L/min)

SIZING INFORMATION
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CONSTANTEMP HEATER

SPECIFICATIONS

Leslie Constantemp _____ * low pressure steam water heater, for use on 2-15** psig steam consisting of an integrally piped (single wall) (double wall) heat exchanger, mounted on a heavy-duty angle iron frame. Heater control package shall be capable of supplying _____ GPM of hot water when heated from _____°F to _____°F without the use of thermostatic control devices or storage tanks. Heater shall be capable of maintaining $\pm 3^{\circ}\text{F}$ over a flow range of a few percent to 100%. The water shall flow through the tubes and steam in the shell. If recirculation is required, the heater shall be equipped with a recirculation system with a non-adjustable valve to set the recirculation temperature. The recirculation system shall be integrally mounted and shall not alter the overall dimensions of the heater. The overall dimensions shall not exceed _____.*** The unit shall provide connections in the manifolds to measure pressures and temperatures.

MATERIALS OF CONSTRUCTION

Exchanger: Ductile Iron (single wall only)(75psi) (517 kPa)
 Cast Steel(150 psi) (1034 kPa)
 (ASME SEC. VIII div. 1)

Blending Valve
 Body:Bronze
 Plug:Hastalloy
 Coils: StandardCopper
 Optional - Single Wall:Admiralty, Cupro-nickel,
 StainlessSteel

* Insert model number from chart.

** For higher steam pressure use a pressure regulator to reduce pressure to 15 psi.

*** Insert dimensions from chart.

Piping Connections inches (mm)

Model	CW Inlet	HW Outlet	Steam in	Condensate out
E-1500L & E-300L	1½ (38)	2 (50)	3 (76)	1¼ (32)
F-340LDW	1½ (38)	2 (50)	3 (76)	1½ (38)
E-4500L & E-600L	1½ (38)	2 (50)	4 (102)	2 (50)
F-640LDW	1½ (38)	2 (50)	4 (102)	1½ (38)
E-7500L† & E-900L† E-10500L† & E-1200L†	2½ (64)	2½ (64)	4 (102)	1½ (38)
F-940LDW & F-1240LDW	2½ (64)	2½ (64)	4 (102)	2 (50)

† Steam inlet is flanged.

DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

Series/Model	Width	Length	Height	Weight*
1500L & 300L	22½ (571.5)	31½ (800.1)	24 (609.6)	270 (122.5)
340 LDW	13¾ (350)	140 (3556)	18¾ (475)	600 (272)
4500L & 600L	22½ (571.5)	31½ (800.1)	27 (685.8)	360 (163.3)
640 LDW	13¾ (350)	141 (3581)	22 (559)	825 (374)
7500L & 900L	24 (609.6)	29½ (749.3)	31 (787.4)	600 (272.2)
940LDW	13¾ (350)	119 (3023)	13¾ (591)	1250 (567)
10500L & 1200L	27¾ (706.1)	34¾ (873.1)	31 (787.4)	720 (326.6)
1240LDW	13¾ (350)	142¾ (3626)	23¾ (591)	1375 (624)

* Excluding traps, stainers, etc.

SIZING - GENERAL

CONSTANTEMP HEATER SIZING

1. Determine inlet temperature, set point, required flow and steam pressure from the customer. If flow in GPM is not known, use the ASHRAE fixture count method in this sizing section to determine flow.
2. If steam pressure is greater than 15 PSI, use the Reducing Valve Selection Chart.
3. To determine heater size, enter the left hand side of the chart at the inlet temperature and corresponding outlet temperature (set-point).
4. Read across to your steam pressure and then read down till you see a flow equal to or greater than the system requirements.
5. Then read across to the right to the corresponding heater model number.

STEAM FLOW REQUIREMENTS

$$\frac{\#}{\text{HR}} = \frac{(\text{GPH})(T2 - T1)}{100}$$

CONDENSATE FLOW

$$\frac{\#}{\text{HR}} \times \frac{500}{500} = \text{GPM CONDENSATE}$$

EXAMPLE

Inlet	40°F
Outlet	140°F
Steam	15 PSI
Flow	65 GPM

Selection E-7500L heater

VARIABLE PRESSURE HEATER SIZING

1. Determine inlet temperature, set point, required flow and steam pressure from the customer. If flow in GPM is not known use the ASHRAE fixture count method in this sizing section to determine flow.
2. Determine required steam valve size from steam valve selection chart.
3. To determine heater size enter the left hand side of the chart at the inlet temperature and corresponding outlet temperature (set-point).
4. Read across to your inlet steam pressure and then read down till you see a flow equal to or greater than the system requirements.
5. Then read across to the right to the corresponding heater model number.

CONSTANTEMP HEATER CODE SELECTION CHART

Model	Flow GPM	Exchanger Material	Coil Material	Design	Tube Pressure	
E	9	0	1	L	H	W
1	2	3	4	5	6	7

Model - Position 1 E - Single Wall F - Double Wall
Flow GPM* - Position 2 15 = (15 GPM) 3 = (30 GPM) 45 = (45 GPM) 6 = (60 GPM) 75 = (75 GPM) 9 = (90 GPM) 105 = (105 GPM) 12 = (120 GPM)

Exchanger Material - Position 3 0 = Ductile iron, 75 psi 2 = Cast steel, 150 psi 4 = Cast steel, 150 psi, ASME 'U' Stamp 5 = Cast steel, 150 psi, ASME 'UM' Stamp
Coil Material - Position 4 0 = Copper 1 = Admiralty 2 = Cupro-Nickel 3 = Stainless steel

Design - Position 5 Blank - High pressure (up to 60 GPM only) L - Low pressure (all sizes)
Tube Pressure - Position 6 & 7 Blank - 150 psig HW - 250 psig DW - Double Wall

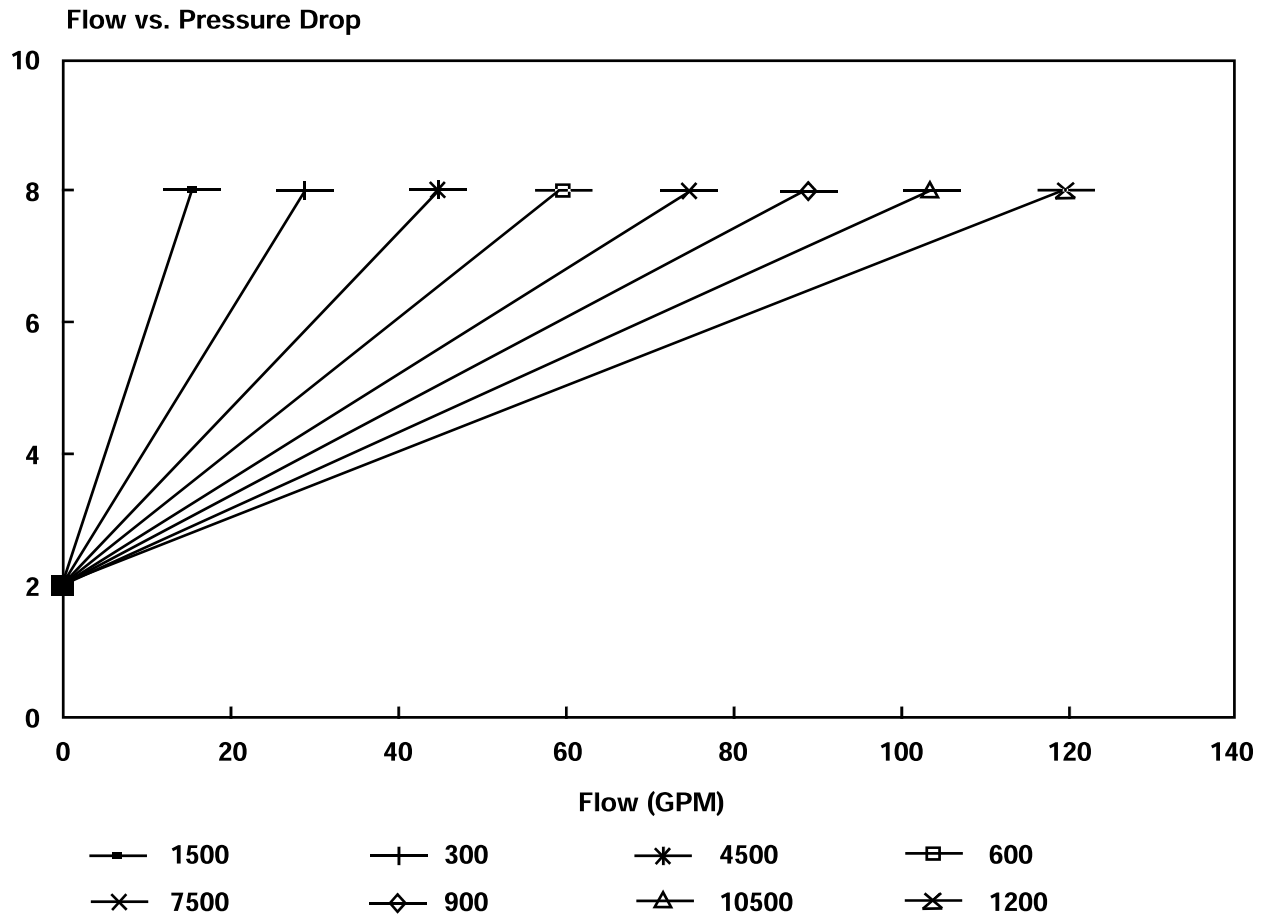
* Nominal Flow in GPM based on 100°F rise

SIZING - GENERAL

PRESSURE DROP VERSUS FLOW LESLIE-CONSTANTEMP HEATERS

Capacity tables for Leslie Constantemp Heaters show various capacities for each model number, depending upon the temperature rise and inlet steam pressure.

The curves shown below give the water pressure drop versus the flow in GPM for Leslie Constantemp Heaters. It is important to calculate the pressure drop for any particular application from these curves to be sure the pressure drop through our heater does not exceed the customer requirements.



SIZING - GENERAL

DETERMINING LESLIE-CONSTANTEMP STEAM-WATER HEATER LOAD REQUIREMENTS*

When sizing the Leslie-Constantemp heater it is necessary to determine the maximum instantaneous flow in gallons per minute (GPM). If the customer cannot provide flow in GPM, it is necessary to perform a count of all fixtures that the heater will serve.

Fixture units (Table 1) are selected for each fixture using hot water and are totalled. Maximum hot water demand in GPM is obtained from Fig. 1 or 2 by matching total fixture units to the curve for the type of building and reading GPM. Hot water for fixtures and outlets that have constant flows should be added to demand.

Unusual hot water requirements in a building should be analyzed to determine if additional capacity is required. An example is a dormitory in a military school where all showers and lavatories can be used simultaneously when students return from a parade. In such a case, the heater should be sized for the full flow of the system.

To make preliminary estimates of hot water demand when the fixture count is not known, use Table 2 with Fig. 1 or 2. The results will usually be higher than the demand determined from the actual fixture count. Actual heater size should be determined from Table 1.

Example: Determine the hot water flow rate for sizing a heater for a 600-student elementary school with the following fixture count; 60 public lavatories, 6 slop sinks, 4 kitchen sinks, 6 showers, and 1 dishwasher at 8 GPM.

Solution: For a preliminary, estimate, use Table 2 to find estimated flow. The basic flow is determined from curve D of Fig. 2, at 600 students x 0.3 fixture units per student = 180 fixture units, plus 6 showers x 1.5 fixture units = 9, or 189 fixture units, for a total flow of 23 GPM.

To size the unit based on actual fixture count and Table 1, the calculation is as follows:

60	public lavatories	x 1	F.U. =	60 F.U.
6	service sinks	x 2.5	F.U. =	15 F.U.
4	kitchen sinks	x 0.75	F.U. =	3 F.U.
6	showers	x 1.5	F.U. =	9 F.U.
Subtotal				87 F.U.

At 87 fixture units, curve D of Fig. 2 shows 16 GPM, to which must be added the dishwasher requirement of 8 GPM. Thus, the total flow is 24 GPM.

Comparing the flow based on actual fixture count to that obtained from the preliminary estimate shows the preliminary estimate to be slightly lower. It is possible that the preliminary estimate could have been as much as twice the final fixture count result. To prevent oversizing the equipment, it is imperative to use the actual fixture count method to select the unit.

TABLE 1. Hot Water Demand in Fixture Units [140°F (60°C) Water]

	Apartment House	Hotels and Gymnasium	Industrial Hospital	Dormitories	Plant	Office	Building	School	YMCA
Basins, private lavatory	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Basins, public lavatory	-----	1	1	1	1	1	1	1	1
Bathtubs	1.5	1.5	-----	1.5	1.5	-----	-----	-----	-----
Dishwashers	1.5			Five (5) Fixture Units per 250 Seating Capacity					
Therapeutic bath	-----	-----	-----	5	-----	-----	-----	-----	-----
Kitchen sink	0.75	1.5	-----	3	1.5	3	-----	0.75	3
Pantry sink	-----	2.5	-----	2.5	2.5	-----	-----	2.5	2.5
Service sink	1.5	2.5	-----	2.5	2.5	2.5	2.5	2.5	2.5
Showers	1.5	1.5	1.5	1.5	1.5	3.5	-----	1.5	1.5
Circular wash fountain	-----	2.5	2.5	2.5	-----	4	-----	2.5	2.5
Semicircular wash fountain	-----	1.5	1.5	1.5	-----	3	-----	1.5	1.5

^a - In applications where all showers can be used at one time the actual flow from each shower should be multiplied by the number of showers and added to flow obtained by the fixture unit method.

TABLE 2. Preliminary Hot Water Demand Estimate

Type of Building	Unit	Fixture Units Per Unit	Type of Building	Unit	Fixture Units Per Unit
Hospital or nursing home	Bed	2.50	Elementary school	Student	0.30 ^a
Hotel or motel	Room	2.50	Jr. and Sr. high school	Student	0.30 ^a
Office building	Person	0.15	Apartment house	Apartment	3.00

^a Plus shower load.

SIZING - GENERAL

Fig. 1 Modified Hunter Curve for Hot Water Flow Rate
(Corrected for Type of Building Usage)

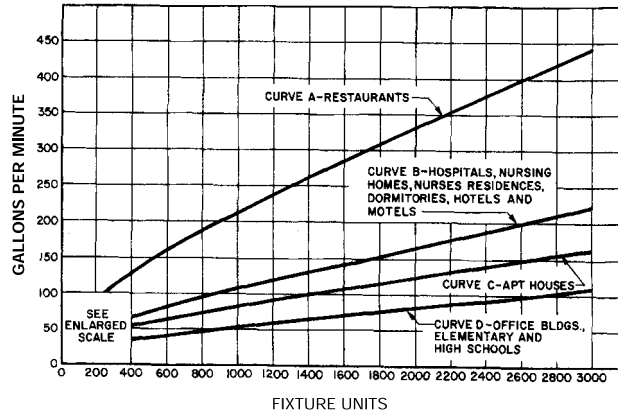
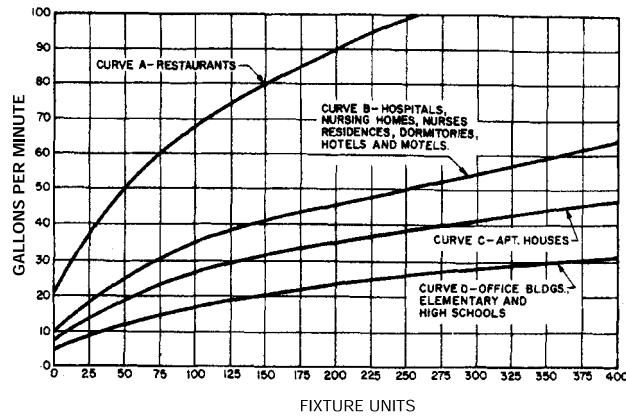


Fig. 2 Enlarged Section of Modified Hunter Curve for Hot Water Flow Rate
(Corrected for Type of Building Usage)



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CONSTANTEMP SERIES SIZING CHART (GPM)

Inlet Temp °F	Set Temp °F	Steam Pressure - PSIG				Model
		2	5	10	15	
40	105 to 110	15	15	15	15	1500L
		29	30	30	30	300L
		22	25	27	35	F-340LDW
		44	45	45	45	4500L
		58	60	60	60	600L
		54	60	62	65	F-640LDW
		73	75	75	75	7500L
		87	90	90	90	900L, F-940LDW
		102	105	105	105	10500L
		116	120	120	120	1200L, F-1240LDW
40	120	14	15	15	15	1500L
		27	30	30	30	300L
		22	25	27	35	F-340LDW
		41	45	45	45	4500L
		54	60	60	60	600L
		54	60	62	65	E-640LDW
		68	75	75	75	7500L
		81	90	90	90	900L, F-940LDW
		95	105	105	105	10500L
		108	120	120	120	1200L, F-1240LDW
40	140	10	11	12	14	1500L
		20	22	24	27	300L
		22	25	27	35	F-340LDW
		33	38	41	44	4500L
		46	54	58	60	600L
		54	60	62	65	F-640LDW
		58	68	73	75	7500L
		69	81	87	90	900L, F-940LDW
		81	95	102	105	10500L
		92	108	116	120	1200L, F-1240LDW
40	150	10	10	11	12	1500L
		17	19	21	23	300L
		20	21	23	25	F-340LDW
		29	34	37	39	4500L
		40	49	53	54	600L, F-640LDW
		50	61	66	68	7500L
		60	73	79	81	900L, F-940LDW
		70	86	93	95	10500L
		80	98	106	108	1200L, F-1240LDW
		40	160	—	—	—
—	—			—	—	300L
—	—			—	—	F-340LDW
26	31			33	35	4500L
34	41			44	46	600L, F-640LDW
43	51			55	58	7500L
51	61			66	69	900L, F-940LDW
60	72			77	81	10500L
68	82			88	92	1200L, F-1240LDW
40	180			—	—	—
		—	—	—	—	300L
		—	—	—	—	F-340LDW
		16	17	19	21	4500L
		21	23	25	28	600L, F-640LDW
		26	29	31	35	7500L
		31	34	37	42	900L, F-940LDW
		37	40	44	49	10500L
		42	46	50	56	1200L, F-1240LDW

Inlet Temp °F	Set Temp °F	Steam Pressure - PSIG				Model
		2	5	10	15	
60	105 to 110	15	15	15	15	1500L
		30	30	30	30	300L
		30	30	33	35	F-340LDW
		45	45	45	45	4500L
		60	60	60	60	600L
		60	60	62	65	F-640LDW
		75	75	75	75	7500L
		90	90	90	90	900L, F-940LDW
		105	105	105	105	10500L
		120	120	120	120	1200L, F-1240LDW
60	120	15	15	15	15	1500L
		30	30	30	30	300L
		30	30	33	35	F-340LDW
		45	45	45	45	4500L
		60	60	60	60	600L
		52	57	62	65	F-640LDW
		75	75	75	75	7500L
		90	90	90	90	900L, F-940LDW
		105	105	105	105	10500L
		120	120	120	120	1200L, F-1240LDW
60	140	12	13	14	15	1500L
		23	25	27	30	300L
		25	27	30	35	F-340LDW
		40	42	44	45	4500L
		57	59	60	60	600L
		52	57	62	65	F-640LDW
		71	74	75	75	7500L
		85	88	90	90	900L, F-940LDW
		100	103	105	105	10500L
		114	118	120	120	1200L, F-1240LDW
60	150	10	11	12	14	1500L
		20	22	24	27	300L
		23	25	27	30	F-340LDW
		35	38	41	44	4500L
		49	54	57	60	600L
		52	57	62	65	F-640LDW
		61	68	71	75	7500L
		73	81	85	90	900L, F-940LDW
		86	95	100	105	10500L
		98	108	114	120	1200L, F-1240LDW
60	160	—	—	—	—	1500L
		—	—	—	—	300L
		—	—	—	—	F-340LDW
		32	37	38	42	4500L
		42	49	51	56	600L, F-640LDW
		53	61	64	70	7500L
		63	73	76	84	900L, F-940LDW
		74	86	89	98	10500L
		84	98	102	112	1200L, F-1240LDW
		60	180	—	—	—
—	—			—	—	300L
—	—			—	—	F-340LDW
22	25			29	33	4500L
29	33			39	44	600L, F-640LDW
36	41			49	55	7500L
43	49			58	66	900L, F-940LDW
51	58			68	77	10500L
58	66			78	88	1200L, F-1240LDW

To calculate the capacity of available alternate coils, multiply the capacity from the table by the following factors: (Double wall only available in copper.)

Coil Materials (single wall only)	Capacity Factor
Admiralty	0.95
Cupro-nickel	0.81
Stainless steel	0.85

CONSTANTEMP SERIES SIZING CHART (LPM)

Inlet Temp °C	Set Temp °C	Steam Pressure - BAR				Model
		0.1	0.3	0.7	1	
4.4	40 to 43	57	57	57	57	1500L
		110	114	114	114	300L
		83	95	102	132	F-340LDW
		167	170	170	170	4500L
		220	227	227	227	600L
		204	227	235	246	F-640LDW
		276	284	284	284	7500L
		329	341	341	341	900L, F-940LDW
		386	397	397	397	10500L
		439	454	454	454	1200L, F-1240LDW
4.4	49	53	57	57	57	1500L
		102	114	114	114	300L
		43	95	102	132	F-340LDW
		155	170	170	170	4500L
		204	227	227	227	600L
		204	227	227	246	F-640LDW
		257	284	284	284	7500L
		307	341	341	341	900L, F-940LDW
		360	397	397	397	10500L
		409	454	454	454	1200L, F-1240LDW
4.4	60	38	42	45	53	1500L
		76	83	91	102	300L
		83	95	102	132	F-340LDW
		125	144	155	167	4500L
		174	204	220	227	600L
		204	227	235	246	F-640LDW
		220	257	276	284	7500L
		261	307	329	341	900L, F-940LDW
		307	360	386	397	10500L
		348	409	439	454	1200L, F-1240LDW
4.4	66	38	38	42	45	1500L
		64	72	79	87	300L
		76	79	87	95	F-340LDW
		110	129	140	148	4500L
		151	185	201	204	600L, F-640LDW
		189	231	250	257	7500L
		227	276	299	307	900L, F-940LDW
		265	326	352	360	10500L
		303	371	401	409	1200L, F-1240LDW
		4.4	71	—	—	—
—	—			—	—	300L
—	—			—	—	F-340LDW
98	117			125	132	4500L
129	155			167	174	600L, F-640LDW
163	193			208	220	7500L
193	231			250	261	900L, F-940LDW
227	273			291	307	10500L
257	310			333	348	1200L, F-1240LDW
4.4	82			—	—	—
		—	—	—	—	300L
		—	—	—	—	F-340LDW
		61	64	72	79	4500L
		79	87	95	106	600L, F-640LDW
		98	110	117	132	7500L
		117	129	140	159	900L, F-940LDW
		140	151	167	185	10500L
		159	174	189	212	1200L, F-1240LDW

Inlet Temp °C	Set Temp °C	Steam Pressure - BAR				Model
		0.1	0.3	0.7	1	
15.5	40 to 43	57	57	57	57	1500L
		114	114	114	114	300L
		114	114	125	132	F-340LDW
		170	170	170	170	4500L
		227	227	227	227	600L
		235	235	238	246	F-640LDW
		284	284	284	284	7500L
		341	341	341	341	900L, F-940LDW
		397	397	397	397	10500L
		454	454	454	454	1200L, F-1240LDW
15.5	49	57	57	57	57	1500L
		114	114	114	114	300L
		114	114	125	132	F-340LDW
		170	170	170	170	4500L
		227	227	227	227	600L
		227	227	235	246	F-640LDW
		284	284	284	284	7500L
		341	341	341	341	900L, F-940LDW
		397	397	397	397	10500L
		454	454	454	454	1200L, F-1240LDW
15.5	60	45	49	53	57	1500L
		87	95	102	114	300L
		95	102	114	132	F-340LDW
		151	159	167	170	4500L
		216	223	227	227	600L
		216	233	235	246	F-640LDW
		269	280	284	284	7500L
		322	333	341	341	900L, F-940LDW
		379	390	397	397	10500L
		432	447	454	454	1200L, F-1240LDW
15.5	66	38	42	45	53	1500L
		76	83	91	102	300L
		87	95	102	114	F-340LDW
		132	144	155	167	4500L
		185	204	216	227	600L
		197	216	235	246	F-640LDW
		231	257	269	284	7500L
		276	307	322	341	900L, F-940LDW
		326	360	379	397	10500L
		371	409	432	454	1200L, F-1240LDW
15.5	71	—	—	—	—	1500L
		—	—	—	—	300L
		—	—	—	—	F-340LDW
		121	140	144	159	4500L
		159	185	193	212	600L, F-640LDW
		201	231	242	265	7500L
		238	276	288	318	900L, F-940LDW
		280	326	337	371	10500L
		318	371	386	424	1200L, F-1240LDW
		15.5	82	—	—	—
—	—			—	—	300L
—	—			—	—	F-340LDW
83	95			110	125	4500L
110	125			148	167	600L, F-640LDW
136	155			185	208	7500L
163	185			220	250	900L, F-940LDW
193	220			257	291	10500L
220	250			295	333	1200L, F-1240LDW

To calculate the capacity of available alternate coils, multiply the capacity from the table by the following factors: (Double wall only available in copper.)

Coil Materials (single wall only)	Capacity Factor
Admiralty	0.95
Cupro-nickel	0.81
Stainless steel	0.85

SIZING - CONSTANTEMP SERIES

REDUCING VALVE SELECTION CHART

(Gallon Per Minute)

Inlet Temp	Set Temp	Steam Supply	Size "GPK or GPKP" series valve							
			1500L	300L 340LDW	4500L	600L 640LDW	7500L	900L 940LDW	10500L	1200L 1240LDW
°F	°F	PSIG								
40	105 to 110	20	1 1/4	2 1/2	3	4	4	4	4	4*
		25	1	1 1/2	2 1/2	3	3	4	4	4
		50	3/4	1	1 1/4	1 1/2	2	2 1/2	2 1/2	3
		75	1/2	3/4	1	1 1/4	1 1/2	1 1/2	2	2
		100	1/2	3/4	1	1	1 1/4	1 1/4	1 1/2	1 1/2
		125	1/2	3/4	3/4	1	1	1 1/4	1 1/4	1 1/2
40	120	20	1 1/2	2 1/2	3	4	4	4	4*	4*
		25	1 1/4	2	2 1/2	3	3	4	4	4
		50	3/4	1 1/4	1 1/2	1 1/2	2 1/2	2 1/2	3	3
		75	3/4	1	1 1/4	1 1/2	1 1/2	2	2	2 1/2
		100	1/2	3/4	1	1 1/4	1 1/4	1 1/2	1 1/2	2
		125	1/2	3/4	1	1	1 1/4	1 1/4	1 1/2	1 1/2
40	140	20	1 1/2	3	4	4	4	4*	4**	4**
		25	1 1/4	2	3	4	4	4	4	4*
		50	3/4	1 1/4	1 1/2	2	2 1/2	3	3	3
		75	3/4	1	1 1/4	1 1/2	2	2 1/2	2 1/2	2 1/2
		100	1/2	3/4	1	1 1/4	1 1/2	1 1/2	2	2 1/2
		125	1/2	3/4	1	1 1/4	1 1/4	1 1/2	1 1/2	2
40	150	20	1 1/2	2 1/2	4	4	4	4*	4**	4**
		25	1 1/4	2	3	4	4	4	4	4*
		50	3/4	1 1/4	1 1/2	2 1/2	2 1/2	3	3	3
		75	3/4	1	1 1/4	1 1/2	2	2 1/2	2 1/2	2
		100	1/2	3/4	1	1 1/4	1 1/2	1 1/2	2	2 1/2
		125	1/2	3/4	1	1 1/4	1 1/4	1 1/2	2	2
40	160	20	—	—	2 1/2	4	4	4*	4*	4**
		25	—	—	3	3	4	4	4	4*
		50	—	—	1 1/2	2	2 1/2	2 1/2	3	3
		75	—	—	1 1/4	1 1/2	1 1/2	2	2 1/2	2 1/2
		100	—	—	1	1 1/4	1 1/2	1 1/2	2	2
		125	—	—	1	1	1 1/4	1 1/4	1 1/2	1 1/2
40	180	20	—	—	3	3	4	4	4	4*
		25	—	—	2 1/2	2 1/2	3	3	4	4*
		50	—	—	1 1/4	1 1/2	1 1/2	2 1/2	2 1/2	2 1/2
		75	—	—	1	1 1/4	1 1/4	1 1/2	1 1/2	2
		100	—	—	1	1	1 1/4	1 1/4	1 1/2	1 1/2
		125	—	—	3/4	1	1	1 1/4	1 1/4	1 1/2
40	180	150	—	—	3/4	3/4	1	1	1 1/4	1 1/4
		175	—	—	3/4	1	3/4	1	1	1 1/4

Inlet Temp	Set Temp	Steam Supply	Size "GPK or GPKP" series valve							
			1500L	300L 340LDW	4500L	600L 640LDW	7500L	900L 940LDW	10500L	1200L 1240LDW
°F	°F	PSIG								
60	105 TO 110	20	1 1/4	1 1/2	2 1/2	3	3	4	4	4
		25	1	1 1/4	1 1/2	2 1/2	2 1/2	3	3	3
		50	1/2	1	1 1/4	1 1/2	1 1/2	2	2	2
		75	1/2	3/4	1	1	1 1/4	1 1/4	1 1/2	1 1/2
		100	1/2	1/2	3/4	1	1	1	1 1/4	1 1/4
		125	1/2	1/2	3/4	3/4	1	1	1	1 1/4
60	120	20	1 1/4	2	2 1/2	3	4	4	4	4
		25	1	1 1/2	2	2 1/2	3	3	4	4
		50	3/4	1	1 1/4	1 1/2	1 1/2	2	2 1/2	2 1/2
		75	1/2	3/4	1	1	1 1/4	1 1/4	1 1/2	1 1/2
		100	1/2	3/4	3/4	1	1	1 1/4	1 1/4	1 1/2
		125	1/2	1/2	3/4	1	1	1	1 1/4	1 1/4
60	140	20	1 1/2	2 1/2	3	4	4	4	4*	4*
		25	1 1/4	2	2 1/2	3	3	4	4	4
		50	3/4	1 1/4	1 1/2	1 1/2	2	2 1/2	3	3
		75	3/4	1	1 1/4	1 1/2	1 1/2	2	2 1/2	2 1/2
		100	1/2	3/4	1	1 1/4	1 1/4	1 1/2	1 1/2	2
		125	1/2	3/4	1	1	1 1/4	1 1/4	1 1/2	1 1/2
60	150	20	1 1/2	2 1/2	3	4	4	4	4*	4*
		25	1 1/4	2	2 1/2	3	4	4	4	4
		50	3/4	1 1/4	1 1/2	2	2 1/2	2 1/2	3	3
		75	3/4	1	1 1/4	1 1/2	1 1/2	2	2 1/2	2 1/2
		100	1/2	3/4	1	1 1/4	1 1/4	1 1/2	1 1/2	2
		125	1/2	3/4	1	1	1 1/4	1 1/4	1 1/2	1 1/2
60	160	20	—	—	4	4	4	4*	4*	4**
		25	—	—	3	3	4	4	4	4*
		50	—	—	1 1/2	2	2 1/2	3	3	3
		75	—	—	1 1/4	1 1/2	1 1/2	2	2 1/2	2 1/2
		100	—	—	1	1 1/4	1 1/4	1 1/2	2	2
		125	—	—	1	1	1 1/4	1 1/4	1 1/2	2
60	180	20	—	—	3	4	4	4*	4*	4**
		25	—	—	3	3	4	4	4	4
		50	—	—	1 1/2	2	2 1/2	2 1/2	3	3
		75	—	—	1 1/4	1 1/2	2	2	2 1/2	2 1/2
		100	—	—	1	1 1/4	1 1/4	1 1/2	1 1/2	2
		125	—	—	1	1	1 1/4	1 1/4	1 1/2	1 1/2
60	180	150	—	—	3/4	1	1	1 1/4	1 1/4	1 1/2
		175	—	—	3/4	1	1	1 1/4	1 1/4	1 1/2

SIZING - CONSTANTEMP SERIES

REDUCING VALVE SELECTION CHART

(Liter Per Minute)

Inlet Temp	Set Temp	Steam Supply	Size "GPK or GPKP" series valve							
			1500L	300L 340LDW	4500L	600L 640LDW	7500L	900L 940LDW	10500L	1200L 1240LDW
°C	°C	PSIG								
4.4	40 TO 43	20	32	65	80	100	100	100	100	100
		25	25	40	65	80	80	100	100	100
		50	20	25	32	40	50	65	65	80
		75	15	20	25	32	40	40	50	50
		100	15	20	25	25	32	32	40	40
		125	15	20	20	25	25	32	32	40
4.4	49	20	40	65	80	100	100	100	100	100
		25	32	50	65	80	80	100	100	100
		50	20	32	40	40	65	65	80	80
		75	20	25	32	32	40	40	50	65
		100	15	20	25	32	32	40	40	50
		125	15	20	25	25	32	32	40	40
4.4	60	20	40	80	100	100	100	100	100	100
		25	32	50	80	100	100	100	100	100
		50	20	32	40	50	65	80	80	80
		75	20	25	32	40	50	65	65	65
		100	15	20	25	32	40	40	50	65
		125	15	20	25	32	32	40	40	50
4.4	66	20	40	65	100	100	100	100	100	100
		25	32	50	80	100	100	100	100	100
		50	20	32	40	65	65	80	80	80
		75	20	25	32	40	50	65	65	50
		100	15	20	25	32	40	40	50	65
		125	15	20	25	32	40	40	40	50
4.4	71	20	—	—	65	100	100	100	100	100
		25	—	—	80	80	100	100	100	100
		50	—	—	40	50	65	65	80	80
		75	—	—	32	40	40	50	65	65
		100	—	—	25	32	40	40	50	50
		125	—	—	25	25	32	32	40	40
4.4	82	20	—	—	80	80	100	100	100	100
		25	—	—	65	65	80	80	100	100
		50	—	—	32	40	40	65	65	65
		75	—	—	25	32	32	40	40	25
		100	—	—	25	25	32	32	40	40
		125	—	—	20	25	25	32	32	32
4.4	82	150	—	—	20	20	25	25	32	32
		175	—	—	20	25	20	25	25	32

Inlet Temp	Set Temp	Steam Supply	Size "GPK or GPKP" series valve							
			1500L	300L 340LDW	4500L	600L 640LDW	7500L	900L 940LDW	10500L	1200L 1240LDW
°C	°C	PSIG								
15.5	40 to 43	20	32	40	65	80	80	100	100	100
		25	25	32	40	65	65	80	80	80
		50	15	25	25	32	40	40	50	50
		75	15	20	25	25	32	32	40	40
		100	15	15	20	25	25	25	32	32
		125	18	15	20	20	25	25	25	32
15.5	49	20	32	50	65	80	100	100	100	100
		25	25	40	50	65	80	80	100	100
		50	20	25	32	32	40	50	65	65
		75	15	20	25	25	32	32	40	40
		100	15	20	20	25	25	32	32	40
		125	15	15	20	25	25	25	32	32
15.5	60	20	40	65	80	100	100	100	100	100
		25	32	50	65	80	80	100	100	100
		50	20	32	40	40	50	65	80	80
		75	20	25	32	32	40	40	50	65
		100	15	20	25	32	32	40	40	50
		125	15	20	25	25	32	32	40	40
15.5	66	20	40	65	80	100	100	100	100	100
		25	32	50	65	80	80	100	100	100
		50	20	32	40	50	65	65	80	80
		75	20	25	32	40	40	50	65	65
		100	15	20	25	32	32	40	40	50
		125	15	20	25	25	32	32	40	40
15.5	71	20	—	—	100	100	100	100	100	100
		25	—	—	80	80	100	100	100	100
		50	—	—	40	50	65	80	80	80
		75	—	—	32	40	40	50	65	65
		100	—	—	25	32	32	40	50	50
		125	—	—	25	25	32	32	40	50
15.5	82	20	—	—	80	100	100	100	100	100
		25	—	—	80	80	100	100	100	100
		50	—	—	40	50	65	65	80	80
		75	—	—	32	40	50	50	65	65
		100	—	—	25	32	32	40	40	50
		125	—	—	25	25	32	32	40	40
15.5	82	150	—	—	20	25	25	32	32	40
		175	—	—	20	25	20	25	25	32

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